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ABSTRACT

It is reported that the New York State Indians, descendants of Asiatic immigrants, participated in leading cultural episodes of the eastern United States. Since their remains illustrate processes of cultural growth, the New York prehistoric cultures are described in terms of archaeological findings under 3 major stages of development: the Paleo-Indian stage, various Archaic cultures, and various Woodland cultures. In summary, it is noted (1) that the Paelo-Indian stage refers to the period of occupation by early hunters whose skeletal remains have never been found but whose scanty chipped stone implements occur on a few small sites in New York State is thinly scattered surface findings; (2) that, during the Archaic stage, groups of nonagricultural hunters, fishers, and gatherers of wild food inhabited most of the state; and (3) that some of their descendants became pottery users and later agriculturists during the Woodland stage, which lasted into historic times. (A related document is ED 032 985.) (AN)

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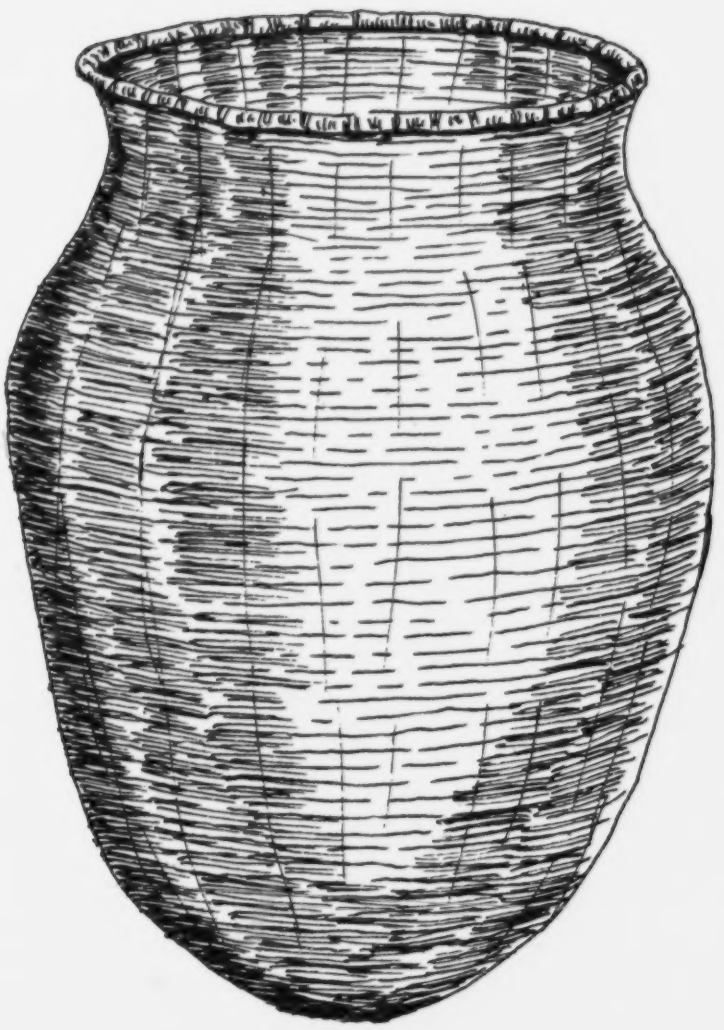

by

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[1969]

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PART I

PRE-IROQUOIAN CULTURES

PRE-IROQUOIAN CULTURES

Since "the present is the child of the past and the parent of the future," we cannot truly understand current cultural forms without such knowledge as only archeology can afford of the course of their development through the long distant past which extends far beyond recorded history. The archeologist is the specialized anthropologist who endeavors to discover and interpret buried human history through a study not only of the material goods of civilization but also of customs, beliefs, and value systems insofar as revealed by archeological remains. In a very real sense, "we are all ghosts, the past walks with us."

It is one of the archeologist's ultimate aims to discover and formulate, with the aid of fellow anthropologists and historians, basic generalizations underlying the processes of growth and decline of cultures and civilizations all over the world. A mastery of such knowledge might be of inestimable diagnostic value to our own civilization. "Those who cannot remember the past are condemned to repeat it."

According to present concepts, the New World was peopled by a succession of migrations of differing physical types whose portal of entry was at the Bering Strait in Alaska. The New York Indians, presently to be described, were descendants of certain of these Asiatic immigrants.

Figure 1 Culture Sequence in New York

STAGE		Inland Area	Eastern and Coastal Area	C^{14} Date
HISTORIC		Iroquoian Tribes	Algonkian Tribes	A.D. 1600*
WOODLAND	Late	Iroquois	Clason's Point	c A.D. 1300
		Owasco	Sebonac Bowmans Brook	c A.D. 1100
	Middle	Late Point Peninsula	Clearview	c A.D. 500
		Hopewellian Early Point Peninsula		c A.D. 160 c A.D. 140
	Early	Middlesex		
		Meadowood	Orient	c 900 B.C.
ARCHAIC		Frost Island		c 1200 B.C.
			Snook Kill	c 1500 B.C.
			River	c 1900 B.C.
			Sylvan Lake	c 2200 B.C.
		Lamoka		c 2500 B.C.
		Frontenac		
		Laurentian	Laurentian	c 2700 B.C.
				c 3500 B.C.*
PALEO-INDIAN		Fluted point sites		c 8000 B.C.*

*Not from radiocarbon determination

While the prehistoric past of New York State may seem to be well outside the main stream of our history and therefore have but slight consequences for the broader study of human development, it is nevertheless true that, since "human history is one history," no knowledge of the whole is possible if we omit the parts. Ancient New York occupants participated in the leading cultural episodes of the eastern United States and their remains illustrate valid processes of cultural growth and change. There are, of course, unique features or regional expressions of cultural patterns, and these enhance rather than detract from our interest in the story.

In accord with present practices the New York cultures will be described under three major groupings or stages of development, termed respectively the Paleo-Indian, the Archaic, and the Woodland (see chart of culture sequence, fig. 1). The Paleo-Indian stage refers to the period of occupation by Early Hunters whose skeletal remains have never been found, but whose scanty chipped stone implements, chiefly fluted points of Clovis type (fig. 3, a), occur on a few small sites in New York State (fig. 2) and as thinly scattered surface finds. During the Archaic stage several physically and culturally different groups of nonagricultural hunters, fishers, and gatherers inhabited most of the area that is now New York State. The descendants of some of these Archaic peoples, and probably new groups as well, became pottery users and later agriculturists during the Woodland stage which lasted

Figure 2

SOME MAJOR NEW YORK SITES

Intensively Explored

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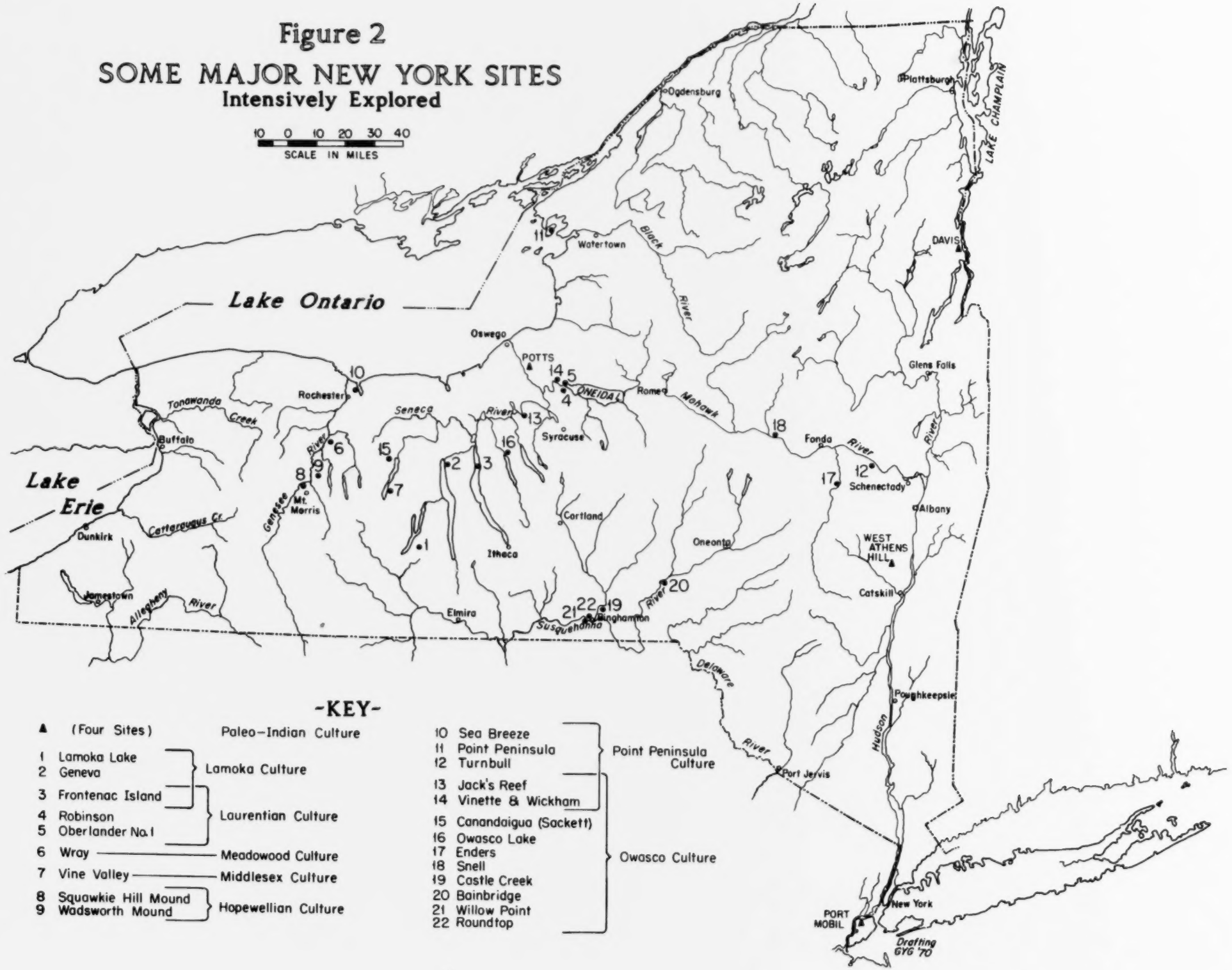
SCALE IN MILES



-KEY-

▲	(Four Sites)	Paleo-Indian Culture
1	Lamoka Lake	Lamoka Culture
2	Geneva	Lamoka Culture
3	Frontenac Island	Laurentian Culture
4	Robinson	Laurentian Culture
5	Oberlander No. I	Laurentian Culture
6	Wray	Meadowood Culture
7	Vine Valley	Middlesex Culture
8	Squawkie Hill Mound	Hopewellian Culture
9	Wadsworth Mound	Hopewellian Culture
10	Sea Breeze	Point Peninsula Culture
11	Point Peninsula	Point Peninsula Culture
12	Turnbull	Point Peninsula Culture
13	Jack's Reef	Owasco Culture
14	Vinette & Wickham	Owasco Culture
15	Canandaigua (Sackett)	Owasco Culture
16	Owasco Lake	Owasco Culture
17	Enders	Owasco Culture
18	Snell	Owasco Culture
19	Castle Creek	Owasco Culture
20	Bainbridge	Owasco Culture
21	Willow Point	Owasco Culture
22	Roundtop	Owasco Culture

into historic times.

The Paleo-Indian Stage in New York

Very little was known about this earliest period of human occupation of New York State until quite recently. Then with the discovery of several small camp sites in central and eastern New York (fig. 2) it became possible to distinguish an assemblage of chipped stone implements, comprising distinctive forms of end and side scrapers, knives, and probably wood and bone graving tools, which accompanied the equally distinctive fluted weapon points of Clovis (not Folsom) pattern, know previously only as random surface finds.

In Arizona, New Mexico, Colorado, Texas, and elsewhere in the western, and especially the southwestern United States, these Clovis fluted points have been discovered in indisputable association with the skeletal remains of such long extinct Pleistocene mammals as the Columbian elephant, horse, and bison, and have been radiocarbon dated at around 10,000 B.C. (See suggested reference no. 1.) In the eastern United States no faunal associations are known for Clovis points, but very recently an artifact of this kind was discovered in a cave in Orange County, New York, apparently in the same lower level with caribou bones which have been dated by the Carbon-14 method at approximately 10,600 B.C. It now seems quite probable that very small groups, probably

consisting of a few related families, of Early Hunters had penetrated northward into the New York area along major river valleys soon after this region had finally become free of the Wisconsin ice sheet. They seem to have wandered quite widely through an Arctic tundra-like environment in pursuit of migratory herds of caribou. Whether or not they also killed other large game animals, such as the mastodon, has still to be determined. (See suggested references nos. 2, 5.) Many other things remain to be discovered about these first and least known inhabitants of New York.

The Archaic Stage in New York

The last remnants of the final or Wisconsin ice sheet had evidently long since wasted away; forests of mixed evergreens and hardwoods covered most of the land; and present-day species of birds, fish, and mammals thrived in large numbers when our first recognized hunters appeared along the valleys of the Finger Lakes and larger rivers of western, central, and southern New York. Many existing mucklands and swamps were then shallow lakes and the streams must have flowed clearer, deeper, and certainly more constantly than now due to the thick spongy covering of the forest floor. Studies of fossil pollens from bogs in eastern North America have indicated the prevalence of relatively warm and humid conditions favorable to hunting,

fishing, and the gathering of wild food plants, especially nuts and fruits.

While there are major differences both in the physical characteristics of the people themselves, as told by their skeletal remains, and in their preserved cultural equipment during the several millennia of the Archaic stage in New York, the basic economy and general way of life of the various groups seem to have been similar. All were seminomadic hunters, fishers, and gatherers of wild vegetal and other foods, although the means of capture varied somewhat. Pottery and the use of the smoking pipe were unknown. By inference from generally similar cultures elsewhere in the country, we may suppose that baskets were a part of the material goods although no remnant has survived.

The vast number of shattered stones found on the camp sites proves that stone-boiling was an accepted method of cooking. In this extremely ancient method, heated stones were dropped into containers of bark, skin, or basketry to boil their contents. Contact with the cooler liquid often caused the stones to split, making them thereby identifiable as human artifacts. Beds of firestones suggest the roasting of large pieces of meat, and large deep spreads of ashes on some sites hint at the practice of drying meat and fish, and the processing of acorns for meal. The discovery of lumps of iron pyrite (fool's gold), now altered into the mineral limonite (bog iron ore), seems to show that at least

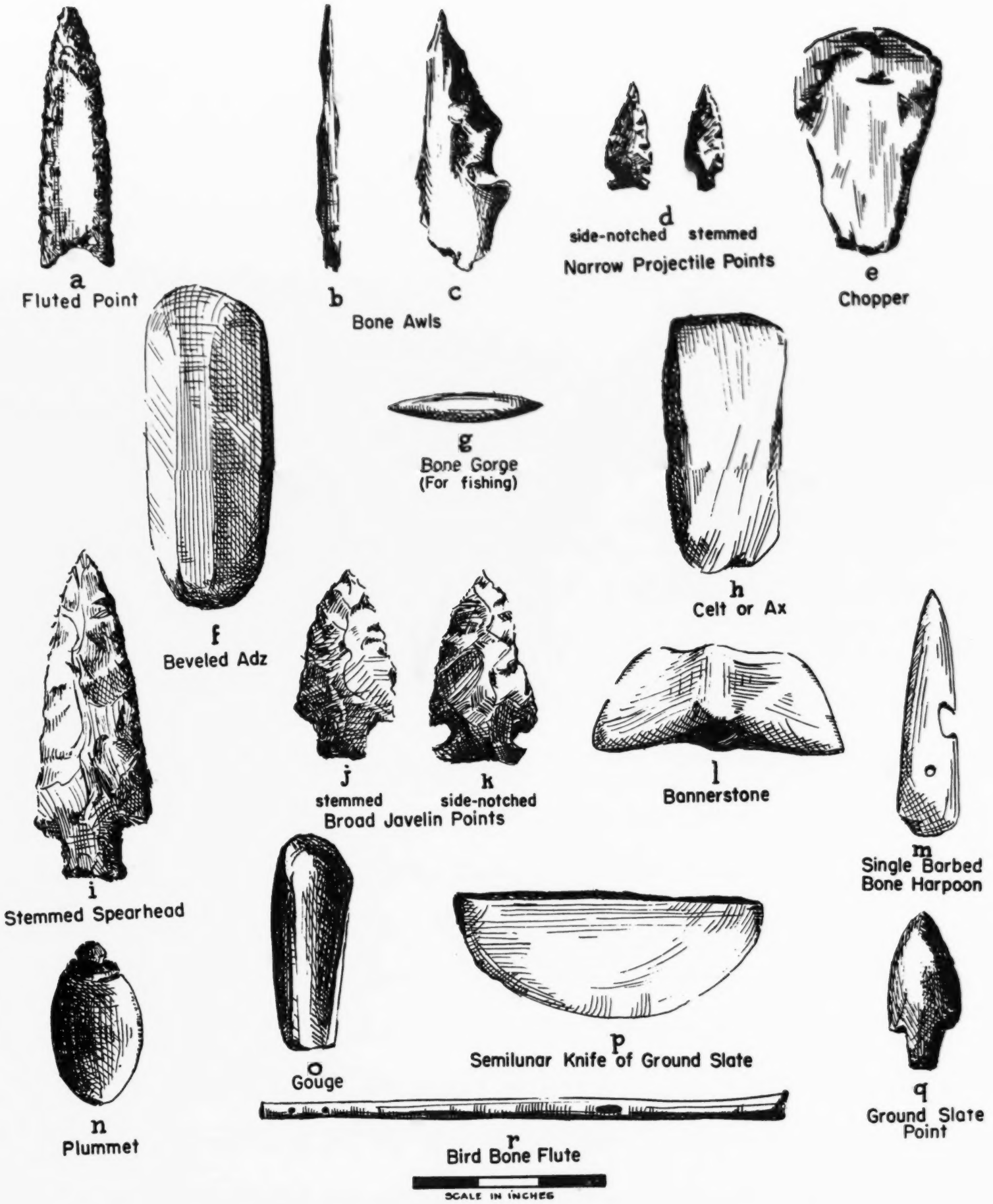


Fig. 3 Artifact Types of the Paleo-Indian Stage (a) and Archaic Stage (b to r)

one very ancient method of kindling fire at will, namely by striking flint on pyrite, was known.

Of body covering we have no direct evidence, but one true, eyed bone needle suggests tailored skin clothing. A multitude of bone awls of many kinds (fig. 3, b, c) may also in part have served in sewing skins. Personal decorations are scantily represented and will be mentioned more specifically later. The first shelters must have been fragile structures, of poles with bark or mat coverings, as suggested by floor areas on one of the earlier sites (Lamoka). One may suspect, again by a somewhat dangerous analogy with contemporary primitive hunting tribes, that the social, religious, and ceremonial aspects of life were relatively simple. Judging from the few burials found pertaining to the first part of the Archaic stage, there was no development of a "cult of the dead," such as was later to appear. The bodies were simply buried in the flexed or folded position on the side, without offerings and in no regular cemetery. Of the linguistic affiliations we will doubtless always be ignorant, for a people's speech is one of the many important elements of their culture which leaves no traces for the archeologist to recover.

Against this brief background we may in turn sketch the broad picture of the principal individual cultures comprising the Archaic stage in New York.

The Laurentian Culture

Apparently the first Archaic people to establish themselves in New York were small bands of hunters from the St. Lawrence Valley who came into eastern New York and western Vermont through the Lake Champlain Valley from which they spread into the Hudson Valley. Other groups of related people penetrated the heart of the State at Oneida Lake via the Oswego and tributary Seneca and Oneida rivers.

We must not suppose that this migration was a steady or calculated movement; rather it took the form of a slow expansion by small bands of people into ever more promising game areas. It is significant to note that the intensity of occupation and the development of the culture are more marked in New York, with its milder winters and probably more abundant fauna, than in lower Ontario. Possibly the climate was becoming progressively warmer and drier at this time.

Because a major center of diffusion appears to lie in the St. Lawrence valley, this culture has been named the Laurentian. Its abundant surface relics, chiefly in the form of large and heavy, broad-bladed, stemmed, and notched projectile points for javelins or short spears (fig. 3, j, k), found scattered on small camp sites over most of the State and certain adjacent areas to the south and west, clearly denote a very lengthy period of habitation to be measured in millennia rather than in centuries.

In the inviting environs of central New York, particularly the great marsh lands of Montezuma, the Seneca river system, the shallow foot of Cayuga lake, and the long rapids of the Oneida river as it emerges from Oneida Lake, the Laurentian hunters and fishermen found ideal conditions, and it is here that the large sites, occupied seasonally over a long time span, have been discovered (see fig. 2, nos. 3, 4, 5). On such sites deep refuse deposits of ashes and humus, containing discarded food bones and implements of bone and antler as well as stone, have been preserved for exploration.

Laurentian skeletons found at Brewerton on the Oneida river and Frontenac Island in Cayuga Lake reveal a people of stocky build with broad heads, faces, and noses, quite at variance with the long-headed Lamoka type. Their preference seems to have been for extending the body in a shallow grave, or most commonly simply covering it with camp refuse, in no regular cemeteries, although clusters of burials, presumably "family plots," were found at Frontenac Island.

Cremation, too, was practised, the burned bones being placed in a shallow pit, and occasionally, for obscure reasons, the Laurentians sprinkled a little powdered hematite (iron oxide) paint over the bones or body. Rarely, a few tools or weapons were placed with the dead, from which fact we may deduce a belief in afterlife of a kind not unlike earthly existence, a widespread and

very ancient concept.

"By their works" we can form some notions of the Laurentians' way of life. The old device known as the spear-thrower was a part of their equipment as shown by the perforated and winged stones to which the misleading term "bannerstone" was applied before their true function was revealed (fig. 3, 1). With this short, throwing instrument of wood, weighted with the bannerstone, a javelin could be hurled with greater force and precision than was possible with the unaided arm. The present day Eskimo and Australians still employ a spear-thrower.

The Laurentian fishermen waded the rapids of the rivers and boated over the shallow river pools and lakes. Besides nets and bone or copper gorges, the Laurentians used barbed bone harpoons. These were of two types, one of which, equipped with a line-hole and detachable shaft, was provided with a large barb for holding the enormous pike and other fish then available (fig. 3, m). Stone plummets found on some Laurentian sites are believed also to have formed part of the fishing equipment (fig. 3, n).

Sometimes adzes, axes, awls, gorges, and other tools fashioned of native copper were obtained by barter from tribes in the Lake Superior region who mined and worked this metal by a process of heating and beating. Ornaments of copper have not been found. At Frontenac Island marine shell pendants which must have come by trade with other peoples along the Atlantic coast occurred with

some of the skeletons. Other body adornments were perforated canine teeth of bear, wolf, and elk, and even a beautifully engraved comb of antler. Spoons and cups of antler also survived at this site, and doubtless supplemented perishable wooden and bark bowls and other utensils. Individual burials of dogs of both a large and small breed, as well as skeletons of this animal in human graves, eloquently reveal emotions akin to our own. At Frontenac Island a grave was opened containing a child's skeleton with a stone toy in its hand, and an infant's bones interred in a once warm bed of ashes with a puppy close against its body were found on the same site. (fig. 2, no. 3).

An important stone tool for working wood, found only in the Laurentian culture in New York, is the gouge (fig. 3, o), a useful instrument for excavating dugout canoes and probably large wooden receptacles. Two additional tool types of the Laurentians need to be mentioned, one of which has striking parallels with certain of the Eskimo cultures. This is a semilunar knife of ground slate resembling the ulo or woman's knife of the Arctic (fig. 3, p). Some forms of the ground slate point (fig. 3, q) also have a general similarity to Eskimo tools, and it was earlier assumed that the Eskimo themselves, or a people much influenced by them, had once dwelt in New York. Later studies have disproved this assumption, partly on the basis of the wide age discrepancy between the early Eskimo and Laurentian cultures. Hearth samples

of charcoal on Laurentian sites have been dated at about 2700 B.C. The earliest dated Eskimo culture is very much younger. (See suggested reference no. 4.)

Finally we must mention the interesting variety of musical flutes, fashioned of hollow bird bones, found on Frontenac Island (fig. 3, r). They have apparent prototypes in the Lamoka culture as, indeed, do a considerable number of artifacts found in this exceedingly instructive site. The evidence found there proves that the occupation of the two quite different Archaic peoples, the Laurentian and the Lamoka, had in part overlapped in time and space. At first probably hostile, as suggested by dart wounds on the bones, the two groups had overcome their enmity. Some of the skull forms as well as the mixed assemblages of grave goods suggest an eventual peaceful intermarriage. Perhaps in this fashion the Lamoka folk and their culture were gradually absorbed by the dominant Laurentians. At any rate, about this time they disappear from view.

But what in turn became of the Laurentians? This question cannot yet be fully answered. In eastern and southern New York and in southern New England cultures of the Laurentian tradition were succeeded by cultures of a quite different tradition, derived from this area, and characterized chiefly by narrow-bladed projectile points. It would appear probably that the new tradition gradually replaced the older one.

The Lamoka Culture

The people responsible for the Lamoka culture, so called from the finding of the key site on the outlet of Lamoka Lake in Schuyler County (see fig. 2, no. 1), were a long-headed folk with narrow skulls, faces, and noses, who were most clearly related physically to the early Shell Mound people of the southeastern United States. They appear to have entered New York from the south and their territory cameto include south central, central, and western New York. They were related culturally to the narrow-bladed point tradition, and the Lamoka culture, firmly radiocarbon dated at the type site to about 2500 B.C., represents the earliest known manifestation of this tradition. In central New York, the evidence from Frontenac Island shows the partial overlap in time and place of the Lamoka culture with the Brewerton culture of the Laurentian tradition, for which still earlier dates of around 2700 B.C. have been determined for part of its territorial range.

Most of the Lamoka sites are small camps, but two large sites have been found and excavated (fig. 2, nos. 1, 2). The type site at Lamoka Lake was evidently a central-base camp for generations of Lamoka people; the Geneva site on Seneca Lake was primarily a fishing camp, periodically occupied for many years. Among the most distinctive implements of Lamoka culture found on all sites are the small,

narrow-bladed, side-notched or stemmed projectile points (fig. 3, d); stemmed spearhead (fig. 3, i); rough, almond-shaped "choppers," perhaps really heavy hide-scraping tools (fig. 3, e); and well-polished, beveled stone adzes (fig. 3, f).

Much of the food of the Lamoka Indians was taken from the water with barbless bone fishooks, set-lines equipped with bone gorges or small, double-pointed, baited spikes which caught in the gullet of the fish (fig. 3, g), and nets, as inferred from notched stone sinkers and what are believed to be eyed netting tools of bone. The bone harpoon, however, is missing from their sites.

Acorns were a staple item of diet, as is proved by finding the charred hulls as well as the means of pulverizing them and other wild vegetal foods into flour. These grinding tools comprised shallow stone mortars, mullers, or hand grinding stones, and long, stone, cylindrical pestles.

Wood was worked with rude, grooveless, stone axes known as celts (fig. 3, h) and two kinds of stone adzes. Possibly with these devices and the aid of fire, logs were hollowed into dugout canoes. No copper or shell artifacts have yet come to light and but few and simple articles of personal decoration. Very likely red ocher was occasionally employed as a body pigment, and a small number of implements, such as bone daggers and strange, pendant-like objects of antler, both striped with this substance, have been found.

Late Archaic Cultures of Eastern and Coastal New York

Between approximately 2200 and 1500 B.C., according to the radiocarbon analysis of charcoal from Indian fireplaces on various sites in the Hudson and Mohawk Valleys, eastern and coastal New York were inhabited by a succession of primarily hunting peoples, representing two cultural traditions, both of which were centered in areas south of New York State. Detailed descriptions of the cultures known as Sylvan Lake, River, and Snook Kill (fig. 1) are given in suggested references, nos. 5, 7.

The Sylvan Lake and River culture phases related, as later manifestations, to the narrow-bladed projectile point tradition, already mentioned in connection with the otherwise distinctively different Lamoka culture of central and western New York. We have found no human skeletal remains, indeed, no burials of either the Sylvan Lake or River culture, hence we cannot say whether these cultures were produced by the same physical type of Indians as those known and described as the Lamoka people. The Sylvan Lake culture is best represented by discoveries in a rockshelter in Dutchess County. (See reference no. 7.) Small hunting camps have been found in the Hudson Valley, along tributary streams, as small inland open or rockshelter, probable winter hunting sites and on Long Island, where they are usually marked by the presence of shellfish remains. The Sylvan Lake people were hunters, chiefly of the deer, collectors of various kinds of shellfish and probably wild vegetable foods, although grinding stone implements have not been found on their sites. They seem to have made little or no use of fish as shown by the

absence of fishing equipment.

In the middle and upper Hudson Valley and its tributary streams, and the Mohawk Valley at least to the vicinity of Amsterdam, the River culture took the place of the Sylvan Lake culture farther south. The two cultures, however, overlapped somewhat in time and space, but stratigraphic evidence and radiocarbon dating place the River culture climax a few centuries later than the Sylvan Lake.

River culture sites, as the name implies, are principally found close to the waterways which doubtless provided the routes of travel. While most of them are small, one very large site, covering several acres, was excavated in the lower Mohawk Valley. This appears to have been a central base camp, long used as a seasonal gathering place for the scattered and mobile hunting, fishing, and gathering groups. Long stretches of rifts or shallow fishing waters formerly existed in this section of the Mohawk River, prior to the canalizing and damming of the stream.

In contrast to the Sylvan Lake Indians, the River people depended for much of their food on fish and acorns. Fish were taken by nets, as attested by the surviving stone netsinkers. Bone spears and hooks may also have been employed, but no bone or antler artifacts have survived in the acid soils of the sites so far discovered. Charred acorns occur on some sites of this culture, together with unique stone pestles, ornamented with carved animal heads, for grinding acorn meal in wooden mortars. The River culture is also rich in perforated bannerstones (fig. 3, 1) used in weighting the javelin thrower. The great number of notched projectile points shows that hunting was also an important food-getting activity of this culture.

Representative of the Susquehanna tradition is the Snook Kill culture of eastern and coastal New York, the final manifestation of the Archaic stage in this part of the State. The large, broad-bladed projectile points and knives of this culture were derived from the so-called Lehigh point type of eastern Pennsylvania, and the diffusion of traits, and probably the movement of people, took place along the Susquehanna, doubtless by water transportation for the most part.

Although a riverine people, the Snook Kill Indians seem to have done little fishing and we have no evidence to demonstrate much dependence on the use of acorns and other nuts and seeds. Pits partially filled with burned rock, burned animal bone, ashes, and charcoal, were found on the type site located on the Snook Kill in Saratoga County, and appear to have functioned as earth ovens for the roasting of game.

There is some evidence from Long Island that the Snook Kill folk cremated their dead.

Throughout much of New York, but especially in the central part of the State, the Frost Island culture was transitional from the Archaic to the Early Woodland stage. Also derived from eastern Pennsylvania this culture of the Susquehanna tradition spread northward into New York via the Susquehanna and its tributaries in New York and to a lesser degree, via the Delaware Valley.

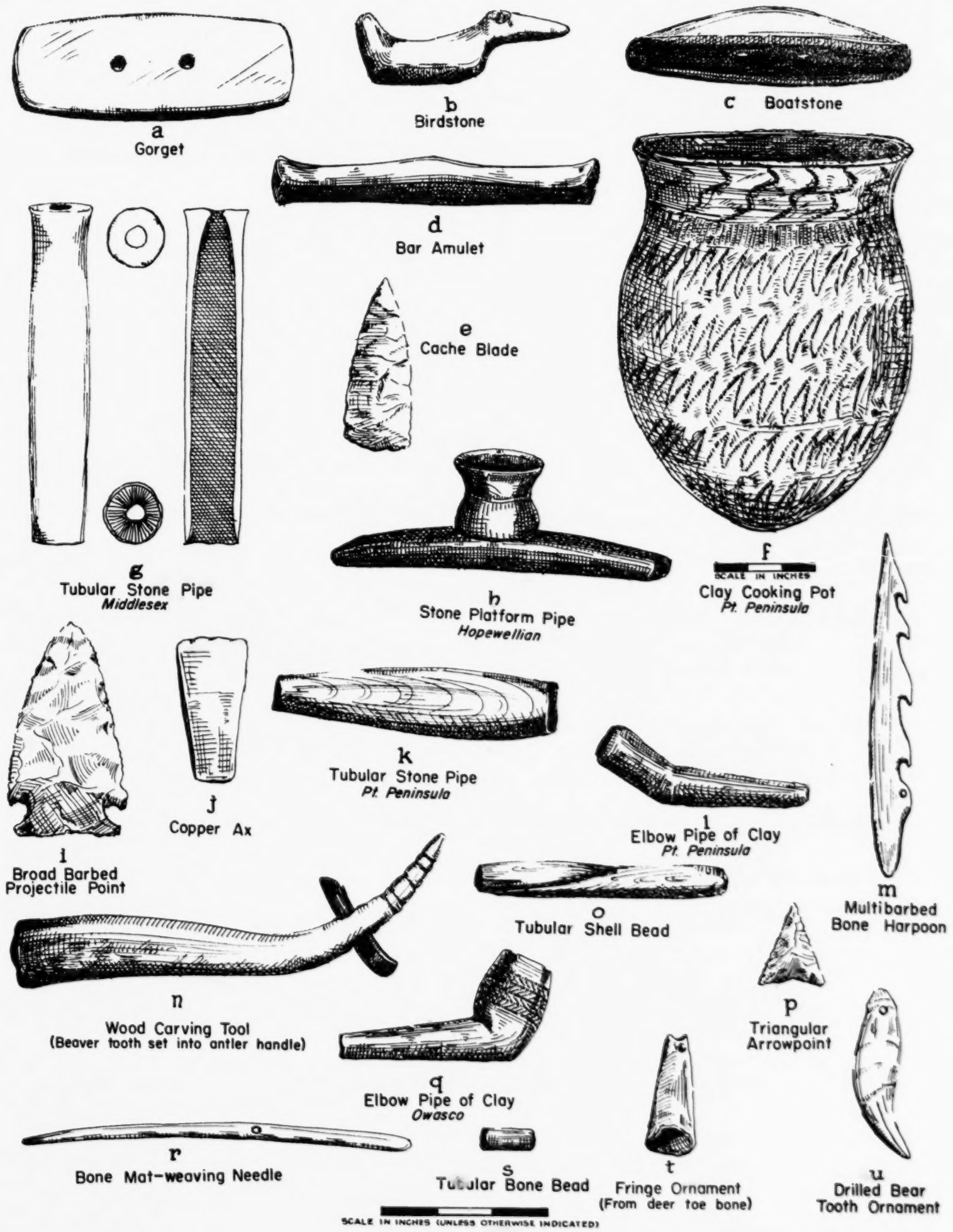


Fig. 4 Artifact Types of the Woodland Stage

Most distinctive of this culture are broad-bladed projectile points and knives with rather fish-tail shaped bases and stone cooking pots carved from soapstone or steatite which was principally quarried in Lancaster County, Pennsylvania.

Life and movement were along the waterways, camp sites rarely being found very far inland. Hunting was the probable chief subsistence activity, but stone netsinkers are known from some sites and barbed bone fishing spears were preserved on one camp site in the Montezuma Marsh of central New York.

In the latter part of the Frost Island phase, the earliest pottery appeared, marking the introduction of what is termed the Early Woodland stage in New York.

The Woodland Stage in New York

It is convenient to recognize three Woodland horizons of time and culture in New York, namely the Early, Middle, and Late, with various subdivisions, some of which are shown in fig. 1. (See for fuller account and listing, reference no. 5.) During the Woodland stage, pottery vessels and smoking pipes appeared for the first time, and both underwent many changes over the more than 2000 years of Woodland stage development. (See reference no. 5 for a detailed description.) In Late Woodland times, the first use was made in the New York area of domesticated plant food--maize, beans, and squashes. As a corollary of this new subsistence technique which insured a surplus of storable foods, the population increased and the first villages appeared.

During the Woodland stage, too, a rudimentary burial ceremonialism

of Late Archaic times was progressively elaborated into a complex ritualism, expressed in a "cult of the dead" in certain Early and Middle Woodland cultures. These cultures also provide abundant evidence of wide contact and trade relationships with groups outside the area. Exotic articles and materials include the colorful chalcedony of Flint Ridge, Ohio; marine shell beads and other ornaments; fresh water pearls; shark teeth; mica; and native copper tools and ornaments. In addition, breast ornaments like gorgets (fig. 4, a), and artifacts of still unknown use, such as birdstones (fig. 4, b), boatstones (fig. 4, c), and bar amulets (fig. 4, d), were expertly fashioned by grinding, polishing, and drilling the attractive banded slates which outcrop along the north shore of Lake Huron.

While mound-building as a cultural trait was practised in various parts of the eastern United States from the Early Woodland on to relatively recent times, all our New York mounds belong to the Middle Woodland period and are related to the southern Ohio center of the Hopewell culture. Mounds of this period were used exclusively for the burial of distinguished persons. (Some of the later mounds of the eastern United States belong to the Mississippi culture, not found in New York, and were erected as substructures for temples and important dwellings.)

Another notable feature of some Early and Middle Woodland cultures is the relatively larger size of many of the articles. There are, for example, enormous carved antler combs ranging up to

14 inches in length, large engraved bone daggers, massive harpoons, and extremely long stone blades, all of which suggest an energetic people imbued with definite and objective ideas. There is now also manifest a mastery of flint chipping techniques not hitherto seen in the State. Many of the so-called cache blades which, like the long blades mentioned above, were doubtless votive offerings, since they usually occur in masses of red paint associated with burials, are exquisitely chipped by pressure flaking and are only about 1/8 of an inch in thickness (fig. 4, e).

With this overall picture in mind, let us now consider some specific major cultures of the Woodland stage in slightly more detail.

The Meadowood Culture (Early Woodland)

Thanks to a number of fortunate discoveries of habitation and burial sites, the Meadowood culture (formerly included by the writer with the Point Peninsula culture, is the best known of the Early Woodland manifestions. (See full descriptions in reference no. 5.) The Meadowood culture has its roots to the west of our area, in the Upper Great Lakes region. The principal New York sites occur in the northern, western, and central parts of the State. Most of them are burial sites showing a high degree of mortuary ceremonialism in which cremation, the use of red ocher, and a lavish display of grave offerings are prominent features. (See reference 6.)

The habitation sites denote an economy still dependent on hunting, fishing, and the collecting of nuts and other wild plant foods. Pottery vessels of the earliest known ware in the Northeast (Vinette 1 type) were extensively used. Tubular smoking pipes were also made of clay. Stone chipping of projectile points, knives, scrapers, drills, and cache or mortuary blades (fig. 4,e) was among the finest known. Stone ornaments such as gorgets (fig. 4, a) occur in several styles; copper beads were used; copper axes are present (fig. 4, j); and the rare and mysterious birdstone (fig. 4, b) has been found in some graves.

The Middlesex Culture (Early Woodland)

The relatively poorly known Middlesex culture is chiefly found in eastern New York, where it is represented only by accidentally uncovered burial sites. It is related to the Adena culture of Ohio, Kentucky, West Virginia, and elsewhere. It seems to have shared with the Meadowood, and even the later phase of the Frost Island culture, the use of Vinette 1 ware, a rather crude, thick pottery, coarsely tempered with crushed stone. The pots have straight sides and pointed bottoms, and are marked all over, inside as well as out, with impressions of a cord-wrapped paddle. A tubular form of stone pipe with one partially closed end (called a blocked-end tube) is characteristic of this culture (fig. 4, g), as is the boatstone (fig. 4, c) and the bar

amulet (fig. 4, d). The latter two traits, however, persisted into the Middle Woodland Hopewellian phase.

The Orient Culture

Named from a burial site on eastern Long Island, the Orient culture was transitional into the Early Woodland stage. It made abundant use of stone cooking pots and limited use of pottery which usually reproduced the form of the soapstone vessel.

While the Orient culture reached its climax on Long Island, it seems to have been present also in the Hudson Valley, on Staten Island, and elsewhere. All the major known sites, however, are on Long Island. They comprise four extraordinary burial sites at the eastern end, and a large habitation site at Stony Brook in north-central Long Island. Here the typical artifacts of this culture were found in a deep shellfish midden and in large pits used as earth ovens for cooking shellfish and other animal foods. While locally gathered shellfish--hard- and soft-shell clams, oysters, scallops, etc.--provided much of the subsistence of the Orient people, considerable hunting, chiefly of the deer, was done with the javelin, or short throwing spear, tipped with a distinctive form of projectile point (Orient Fishtail, see reference no. 8), and hurled with an atlatl or throwing stick weighted with simple varieties of the bannerstone. There is no evidence for the use of fish.

The Orient culture is most remarkable for its burial ceremonialism. Large and deep pits were dug, in high sand knolls in which interment of cremated bodies or of corpses in various states of disintegration on removal from a charnel house were periodically interred in an elaborate mortuary ritual, which involved the use of fire, food offerings, symbolic red ocher, and grave goods of various kinds, including stone pots, "killed" by intentional breaking. (See full description and discussion in references 5,9.)

The Hopewellian Culture (Middle Woodland)

This culture of mound-builders closely follows the Middlesex in time but, unlike it, has a major distribution in the western part of the State (See. fig. 2, nos. 7, 8.) There are enough shared features to suggest a close relationship. It can be traced by its burial mounds from southern Ohio through northwestern Pennsylvania into our State. The Hopewellians, who were true Indians, had one of the most advanced cultures found in what is now the United States.

Burials of all kinds--flexed, extended, cremated, and bundled (that is, a heap of bones representing a secondary disposal of a body which had decomposed in a charnel house)--occur in these mounds, often in stone-lined and stone-covered vaults (fig. 5, a). Usually they are accompanied by a rather limited variety of burial offerings, comprising chiefly, platform pipes (fig. 4, h); pendants,

and gorgets of polished stone; broad, barbed projectile points (fig. 4, i); flake knives; copper axes (fig. 4, j); and beads of shell and pearl. Hopewellian pottery in New York is similar, for the most part, to that described for the Middlesex culture.

The Point Peninsula Culture (Middle Woodland)

Named from a site in northern New York (fig. 2, no. 13), the Point Peninsula culture is a complex and still imperfectly understood composite of cultural traditions stemming from various sources outside New York, with local or regional developments. Several stages can be differentiated with particular characteristics of their own. The earliest stage (Canoe Point phase) has ceramic affinities with Ontario, Canada; a later stage (Kipp Island phase) shows Hopewellian influences; while a final stage (Hunter's Home phase) was transitional into the Late Woodland Owasco culture. (See reference no. 5.)

Because pottery styles of form and decoration are extremely valuable in relating cultures, as well as in reflecting changes within a culture, the archeologist devotes considerable attention to their study. It has been possible to distinguish 16 specific types of Point Peninsula pottery, and partly thereby to trace the developmental stages of the Point Peninsula in New York (See references nos. 5, 10). All types of Point Peninsula ceramics

pertained to vessels with pointed bases and usually somewhat out-sloping rims (fig. 4, f). The earlier styles were usually decorated all over, later styles had cord-impressed bodies and rim ornamentation only.

Among the most distinctive of Point Peninsula traits of the middle period, were plain, slightly bent elbow pipes of clay or rarely stone[1] (fig. 4, l); bone daggers; antler combs; a rich variety of barbed bone and antler points, some used as harpoons for fishing (fig. 4, m); a striking form of wood-carving tool fashioned from a beaver incisor tooth set into an antler handle (fig. 4, n); and a considerable variety of shell beads (fig. 4, o). At this time broad triangular projectile points appear which were probably true arrow points, suggesting that at last this useful hunting device had been acquired. Most of the flint points described for the earlier cultures seem, almost certainly, to have been used as javelin or spearheads. Some, however, were doubtless special types of knife blades.

Human bodies, first reduced to skeletons above ground, were sometimes cremated in deep pits, but a more common custom was to flex or fold the body directly after death and dispose of it in a pit grave dug in a definite cemetery. The marked attention to

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1) This type was to undergo extensive development in the following Owasco culture.

mortuary matters, dominant from Early Woodland times on, persisted until the late Point Peninsula period. While we know very little about the physical appearance of the earlier Woodland peoples, since most of the skeletons found have been too badly decomposed for measurement, the available data indicate a mixed population for the Point Peninsula, which was apparently the result of a blending of previous strains. In both sexes the head was of medium breadth. The male face was of medium height and breadth, while that of the female was generally lower, and both sexes were broad-nosed.

The Owasco Culture (Late Woodland)

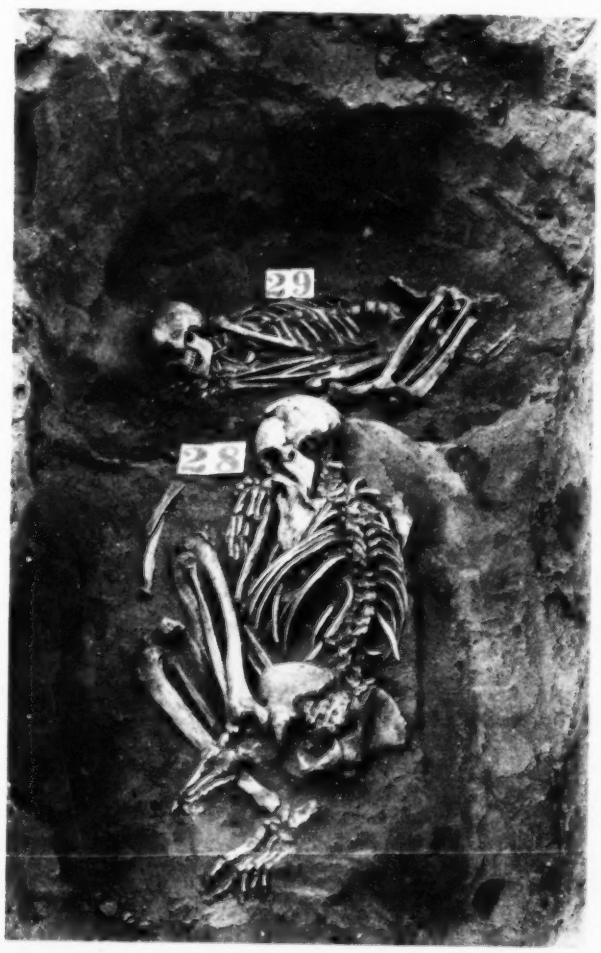
A cultural transition or change of gradual nature from the late Point Peninsula to the early Owasco, due apparently more to internal developments than to external causes, has been partially demonstrated by recent researches. The physical characteristics of the people remained much the same save for a prevalence of long-headedness among the Owasco. The population growth was marked, Owasco sites being more numerous and larger. While many of the early Owasco sites were, like Point Peninsula settlements located along the rivers and marshes of central New York (see fig. 2, nos. 11, 12, 16), others were fortified enclosures located on hilltops and thus foreshadow the early settlements of the Iroquois (see fig. 2, nos. 15, 19). The earlier preoccupation with mortuary matters had virtually disappeared by Owasco times, the burials of

this people being simple, flexed inhumations, very rarely with any offerings (fig. 5, b.) Sometimes these were clustered in regular cemeteries but more often they were randomly placed in abandoned food cache pits scattered about the village.

Their arrows were tipped either with a broad triangular flint point (fig. 4,p), or with bone and antler points of a variety of shapes. Fish were taken with nets, either barbless or more rarely barbed hooks, and barbed bone points. Although the Owasco were both hunters and fishermen, their principal subsistence activity was farming with digging stick and hoe. A few antler and stone hoe blades have been found, but the planting tools were doubtless chiefly of wood. Corn, beans, and squash seeds preserved by accidental charring occur. Acorns, butternuts, hickory nuts, and other wild foods, in a carbonized condition, have been recovered and represent but a small part of the utilized wild plant resources.

On one site in southern New York (fig. 2, no. 19,) there miraculously survived by accidental carbonization remains of coiled and twined-woven baskets and bags for food storage, together with twisted bast cordage and even a set-line of Indian hemp fiber equipped with compound hooks made of hawthorn spines. Individual dishes from box turtle shells and ladles or spoons cut from deer skulls and wild turkey breast bones have been found, but the probable wooden utensils employed have long since decayed.

a Left: Excavating Hopewellian mound near Geneseo, N.Y. (See fig. 2, no. 8.) Note stone-covered central burial at left rear, flexed burial in left foreground, and ceremonial hearths at right.



b Right: Typical flexed adult burials on Sackett site, Canandaigua, N.Y. (See fig. 2, no. 15.) Note leg bone of black bear and bone scraper, probably grave offerings, above knees of number 28.

c Left: Outline of lodge floor on Roundtop site, Endicott, N.Y., of the early Owasco culture. (See fig. 2, no. 22.) This oblong house with rounded ends was 79 feet long and 25 feet wide, with a doorway at both ends.

FIG. 5 EXPLORING SOME NEW YORK SITES

Photographs by the writer; a, b reprinted by courtesy of the Rochester Museum of Arts and Sciences.

Early Owasco cooking pots had pointed bottoms, constricted necks, somewhat flaring collarless rims, a cord-wrapped paddle surface finish, and usually rim and neck decorations of simple straight line patterns made by pressing a cord-wound stick against the plastic clay (see cover illustration). The vessels seem to have been made by modeling a mass of clay tempered with burned and crushed crystalline rock (paddle and anvil technique) rather than by the coiling process which was the method of constructing the earlier forms of New York pottery. Such pots were set directly in the fire, supported by stones and ashes. As time passed pottery styles changed somewhat in form and ornamentation, and later Owasco vessels have rounded bases, are sometimes collared, and occasionally bear, in addition to cord impressed decorations, rudely incised simple designs.

The smoking pipes, too, underwent alterations in shape and embellishment. Beginning with the plain, faintly bent, elbow form inherited from the Point Peninsula culture, the angle between the bowl and stem was progressively reduced until a nearly modern shape resulted (fig. 4, q). Meanwhile the modeling became more refined, the cord-imprinted decorative designs more elaborate, and animal effigy figures or human faces were sometimes added to the bowl. The latest recognized stage shows much free use of the imagination in creating novel variations on the traditional theme. Stone pipes were made by a few expert workmen through much of the

Owasco period. We suspect that pottery manufacture was the work of women, pipe modeling the product of men. The degree of skill displayed in the two related fields progressed with about equal speed.

Palisaded villages have been mentioned, our knowledge being based on the discovery either of postmold patterns or ditches dug for the reception of a stockade line surrounding the village area. The earliest known Owasco settlements were, however, unprotected. It would appear that warfare developed with the growth of population. Inside the enclosures have been found several types of dwellings marked by the postmold outlines of floors. The rarest form was circular, about 12 feet in diameter with a hearth located near the center. A rectangular house with rounded ends, ranging from about 20 to over 90 feet in length, and around 22 feet in breadth, with doorways at either end, and a series of laterally or centrally arranged fireplaces, was the usual dwelling structure of the Owasco Indians (fig. 5, c). This was the prototype of the Iroquois longhouse, and like it, was pole-framed and doubtless bark-covered.

Scattered among the lodges, especially on the later sites, were deeply dug storage pits. These pits from which the greater part of the archeologist's findings are usually recovered, were lined with bark and grass for caching shelled corn, beans, nuts,

and doubtless other storable foods. They were probably sealed over with earth and bark roofs to protect the contents from moisture, insects, and rodents. Ultimately they served as ideal refuse receptacles for the ashes cleaned from the hearth, floor sweepings, garbage, and discarded implements. Frequently intact articles were accidentally lost in them. Their secondary use as readymade graves is attested to by the burials, both human and dog, which have come to light on Owasco sites.

In our wet climate, no articles of clothing have survived and we can only surmise the dress of these Indians. Drawshave-type scrapers fashioned from bear and deer leg bones suggest the dehairing of hides, and the numerous awls of many kinds probably in part functioned as sewing implements. Personal ornaments of bone and stone have remained including tubular bone beads (fig. 4, s); toe bones of deer which were drilled probably for use as fringe ornaments on clothing (fig. 4, t); perforated animal canine teeth, chiefly of the bear and wolf (fig. 4, u); small oval perforated stone pendants; and bone pins with carved heads. Shell beads, so abundant in the Point Peninsula culture, and numerous other striking ornaments of this earlier time are virtually absent from Owasco sites.

Simple bone flutes and turtle shell rattles have been unearthed, and we suspect that they formed a part of the paraphernalia

of ritual. Other more dramatic discoveries afford additional clues to Owasco ceremonial life. There is reason to believe that, in common with many Old and New World northern peoples, the bear was regarded with special veneration and was the object of definite observances. There are even broad hints of human sacrifice.

This is but the barest outline of the way of life of this interesting people who became the dominant late prehistoric[2] occupants of New York State and who probably were in large part the forebears of the Iroquois. There is recent evidence to show that some of them, resident in southeastern New York and adjacent New Jersey came in time to be known as the Munsee, a tribe linked politically and linguistically, but not culturally, with the Algonkian-speaking Lenape or Delaware Confederacy.

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2) Strictly speaking, "prehistoric" means "pertaining to, or existing in, the period before written history begins." Since the Indians of New York had no written records, the earliest accounts of them are found after European contact--that is, chiefly from 1609 on.

SUMMARY

We may briefly summarize some of the major ideas presented in this leaflet as follows:

1. An archeologist is a scientist who endeavors to discover and interpret buried human history.
2. It is generally agreed that the Indians of the New World were of Asiatic origin.
3. Numerous Indian cultures preceding the historic Iroquois and Algonkian are known to have existed in New York State for several thousand years. These prehistoric Indian cultures may be divided into three major stages, Paleo-Indian, Archaic, and Woodland, with numerous subdivisions.
4. The older Archaic peoples were seminomadic hunters and fishermen with no knowledge of agriculture, pottery, or pipes, and with only simple burial customs.
5. The Woodland peoples, on the other hand, in general developed more complex culture patterns, with pottery, specialized burial rituals, and, in the late stage, an agricultural economy based on corn, beans, and squashes.
6. The Hopewellian "mount-builders" belonged to the Middle Woodland stage. Although their culture was most highly developed in the Illinois Valley and southern Ohio, evidences of it can be found in western New York. Their

mounds were constructed solely for burial purposes.

7. Although a few types of early Indian tools are reminiscent of certain Eskimo forms, there is no evidence of any Eskimo culture in New York.
8. The bow and arrow were not used until relatively late in prehistoric times. Many of the so-called "arrowheads," abundant in hobby collections, were probably javelin and spear points or special types of knives.
9. Indian pipes in New York show a gradual transition from simple hollow tubes to elbow and trumpet types. Our modern pipes are probably derived from the Indian elbow form which apparently evolved in the general New York area. To the Indians we likewise owe our knowledge of tobacco.
10. A definite development in pottery forms is apparent in New York cultures. The first pottery vessels, which appeared in the Early Woodland Period, were straight-sided pots with pointed bases which were surface finished inside and out by the application of a cord-wrapped paddle. This type was soon replaced by a more elaborate form. This pottery usually had a somewhat constricted neck, flaring rim, and an over-all decoration on a smoothed body done with toothed-stamps or a cord-wound

stick, often in rocker-stamped design (fig. 4, f). A development of this form in early Owasco times differed chiefly in having a corded surface treatment with decoration on rim and neck made with cord-wound stick. (See cover illustration.) This form in turn was developed into a round-bottomed jar which was sometimes provided with a collar. We believe that this later Owasco type gave rise to the similarly shaped vessels of the Iroquois which, however, had prevailingly smooth bodies and triangular ornamentations on the rim or collar made by incising.

Pottery of the Early and Middle Woodland period appears to have been made by a coiling technique. Owasco and Iroquois vessels, however, seem to have been formed by modeling a lump of clay by what is known as the paddle and anvil process.

In future Educational Leaflets we shall describe in Parts II and III the Iroquoian and Algonkian tribes, the last of the Late Woodland peoples in New York who played such an important role in our own history and whose descendants still reside among us.

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18608